

REMARKS

Reconsideration and withdrawal of the rejections set forth in the above-mentioned Official Action in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 1-11 remain pending in the application, with Claims 1-3, 5-8 and 10 being independent. Claims 1, 2 and 5-10 have been amended herein.

Claims 1, 7, 8 and 10 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent Application Publication No. 2004/0207674 (Otsuki). Claims 2, 4, 9 and 11 were rejected under 35 U.S.C. § 103 as being unpatentable over Otsuki in view of U.S. Patent No. 6,527,360 (Otsuki et al.). Claim 3 was rejected under § 103 as being unpatentable over Otsuki in view of Otsuki et al. and U.S. Patent Application Publication No. 2002/0063871 (Kinas). Claim 5 was rejected under § 103 as being unpatentable over Otsuki in view of U.S. Patent Application Publication No. 2002/0196298 (Cheng et al.). Claim 6 was rejected under § 103 as being unpatentable over Otsuki in view of U.S. Patent No. 6,604,806 (Yamada et al.). These rejections are respectfully traversed.

As discussed previously, Otsuki is directed to adjustment of misalignment of recording positions during bi-directional printing. Different position adjustment values are selectively used to perform printing according to different bi-directional printing modes. More particularly, Otsuki enables a first or second bi-directional scan mode to be selected corresponding to combinations of ink cartridges. Further, different test patterns

are printed corresponding to each print mode. Thus, a first position adjustment value of the first bi-directional print mode or the second position adjustment value of the second bi-directional print mode is set on the basis of the test pattern. That is, Otsuki performs printing of test patterns, respectively, to acquire the first and second position adjustment values suitable for the different printing modes.

While the present invention is similar to Otsuki in that a landing position adjustment value can be acquired by printing a test pattern, the present invention includes further features to solve problems that can arise in the apparatus of Otsuki.

While Otsuki may set a position adjustment value for each bi-directional print mode, there is no disclosure or suggestion of at least setting second adjustment values on the basis of first landing position adjustment values for ink droplets determined on the basis of test patterns and predetermined correction values corresponding to each of a plurality of areas divided along a conveying direction of the print medium, as is recited in independent Claim 1.

Otsuki also does not disclose or suggest that before a trailing edge of the print medium passes through conveying means, performing an ink ejecting operation on the basis of a first landing position adjustment value, and after the trailing edge passes through the conveying means, on the basis of a second landing position adjustment value determined on the basis of the first landing position adjustment value and a correction value, with the second landing position adjustment value being different from the first landing position adjustment value, as is recited in independent Claim 2.

Similarly, Otsuki does not disclose or suggest that before the trailing edge of the print medium passes through print medium conveying means, an ink ejecting operation is performed on the basis of a first landing position adjustment value determined from a first test pattern, and after the trailing edge of the print medium has passed through the pair of rollers, performing an ink ejecting operation on the basis of a second landing position adjustment value determined from the second test pattern, as is recited in independent Claim 3.

In addition, Otsuki does not disclose or suggest acquiring landing position adjustment values to adjust landing positions of ink droplets in a main scanning direction for each scan of the printhead in accordance with landing position adjustment values for first ink droplets determined on the basis of the test patterns and a detected distance and the test patterns, as is recited in independent Claim 5, or on the basis of landing position adjustment values for first ink droplets determined on the basis of the test patterns and printing density in the conveying direction, as is recited in independent Claim 6.

As to Claim 7, Otsuki does not disclose or suggest setting a second adjustment landing position on the basis of first landing position adjustment values determined on the basis of test patterns and predetermined correction values corresponding to each of a plurality of areas divided along a conveying direction of the recording medium.

Nor does Otsuki disclose or suggest controlling so as to adjust ink ejecting timing in using a plurality of adjustment values corresponding to positions of a printing medium, with the plurality of adjustment values being determined on the basis of a first

adjustment value for adjusting landing positions of ink droplets in a main scanning direction and predetermined correction values corresponding to the positions in the conveying direction, as is recited in independent Claim 8.

Further, Otsuki does not disclose or suggest adjusting ink ejecting timings in forward scanning and backward scanning of a print head according to a first adjusting value when the printing medium is in a first position in a conveying direction, adjusting ink ejection timings in forward scanning and backward scanning of a print head according to a second adjusting value which is set by applying a predetermined accumulated value to the first landing position and is different from a first adjusting value and the printing medium is in a second position downstream of the first position, as is recited in independent Claim 10.

Thus, Otsuki fails to disclose or suggest important features of the present invention recited in the independent claims.

Otsuki et al. relates to a printer that can position image data on the printing paper using a sensor. That is, the edge of the sheet can be detected accurately using a sensor mounted on a carriage. Otsuki et al. can adjust an arrangement of an image to be formed on the sheet, but does not control printing based on a plurality of registration values. Otsuki et al. is not believed to remedy the deficiencies of Otsuki noted above with respect to the independent claims.

The linefeed calibration method of Kinas prints a base pattern and an overlay pattern to form an interference pattern. Interference patterns are compared to

identify linefeed advance errors. Kinas describes how to calibrate media advancement.

Moreover, the two patterns in Kinas are not described as being printed before and after a trailing edge of a print medium passes conveying means. Kinas also fails to remedy the deficiencies of the citations noted above with respect to the independent claims.

In Cheng et al., ink ejection frequency can be controlled to compensate for recording medium unevenness. In particular, Cheng et al. can detect a distance between a printhead and print medium along a scanning direction and then adjust the ink ejection frequency in accordance with the detected result. The detected distances in Cheng et al. are along a direction perpendicular to the conveying direction. Cheng et al. differs from the present invention with respect to the target to be controlled and the structure.

The recording system of Yamada et al. can change high resolution data image to low resolution print data. There is no discussion in Yamada et al. of printing a plurality of areas in a conveying direction on the basis of plural registration values.

Yamada et al. also fails to remedy the deficiencies of the citations noted above with respect to the independent claims.

Accordingly, independent Claims 1-3, 5-8 and 10 are patentable over the citations of record. Reconsideration and withdrawal of the §§ 102 and 103 rejections are respectfully requested.

For the foregoing reasons, Applicant respectfully submits that the present invention is patentably defined by independent Claims 1-3, 5-8 and 10. Dependent Claims 4, 9 and 11 are also allowable, in their own right, for defining features of the present

invention in addition to those recited in the independent claims. Individual consideration of the dependent claims is requested.

This Amendment After Final Rejection is an earnest attempt to advance prosecution and reduce the number of issues, and is believed to clearly place this application in condition for allowance. This Amendment was not earlier presented because Applicants earnestly believed that the prior Amendment placed the subject application in condition for allowance. Accordingly, entry of this Amendment under 37 CFR 1.116 is respectfully requested.

Applicant submits that the present application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action, and an early Notice of Allowability are requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

/Mark A. Williamson/  
\_\_\_\_\_  
Mark A. Williamson  
Attorney for Applicant  
Registration No. 33,628

FITZPATRICK, CELLA, HARPER & SCINTO  
30 Rockefeller Plaza  
New York, New York 10112-3801  
Facsimile: (212) 218-2200

MAW/agm

DC\_MAIN 248588v1